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DEVELOPMENT OF INNOVATIVE SOLUTIONS THROUGH THE COLLABORATION INDUSTRY ENTERPRISES WITH RESEARCH INSTITUTIONS

Today's innovation are considered to be a major force for economic growth. The innovation growth is an important element of industrial enterprises management and significant factor country development [1]. The cooperation create the new values, makes research more effective, may accelerate a discovery process and give chances to faster implementation of research results - introduce new products into market. It gives mutual benefit for research and business partners. Thanks to such cooperation it is possible to create innovative solutions, new technologies, new knowledge, new conceptual approaches, new methods, etc. It is necessary element in large projects or solving complicate problems [2].

The process of globalization and development of technology caused fast changing. The companies need to find and exploit new sources of knowledge in order to innovate and grow. One of this sources can be universities [3]. Innovation is now a critical factor in the growth of countries and/or regions. Knowledge and technology transfer between academia and industry is expected to accelerate innovation. The collaboration involving academia and industry is a key driver of economic growth [4].

The advantageous connected with implementation a new solution into business are rather clear, but the question is about the contemporary situation of economy. The support for finding the answer is in interesting data Global Innovation Index Comparison takes under consideration 128 countries. The innovation index for Poland and the Ukraine is comparable. However the in some categories are significant differences, Table 1.

Table 1.

Selected items for Poland and the Ukraine from Global Innovation Index 2016 [5].

Global Innovation Index		Poland		Ukraine	
No.	Name	Rank	Score	Rank	Score
0.	Overall	39	40.2	56	35.7
0.1.	Innovation Efficiency Ratio	66	0.7	12	0.8
1	Institutions	32	75.3	101	48.7
1.1.	Business environment	34	78.7	79	65.2
2	Human capital and Research	42	39.6	40	40.8
3	Infrastructure	50	47.6	99	32.3
3.1.	Ecological sustainability	49	46.3	100	34.1
4	Market sophistication	48	46.5	75	42.1
5	Business sophistication	51	34.6	73	30.6
5.1.	Innovation linkages	82	25.5	88	41.7
5.1.1.	University/industry research collaboration	71	41.7	72	32.5
5.1.2.	State of cluster development	75	43.0	113	25.3
6	Knowledge and technology outputs	52	27.2	33	34.1
6.1.	Knowledge creation	38	24.0	16	46.2
6.2.	Knowledge impact	68	35.4	90	30.4
6.3.	Knowledge diffusion	79	22.2	61	25.6
7	Creative outputs	42	36.3	58	31.0

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The interesting conclusion, after the comparison the results for both countries, is that the overall Innovation Index is better for Poland, but the innovation efficiency ratio is much better for the Ukraine. That is mean that the innovations are more efficient in this country.

In the first category – institution, there are significant differences between Poland and Ukraine. This is not only happen by the political situation and war in the country, but also by the unfavourable regulation and business environment. Other Interesting category is the infrastructure. In the case of the Ukraine the main problems in this categories are connected with not sufficient regulation about environmental protection.

The most interesting categories interesting because of the topic of article are innovation linkages and knowledge and technology outputs. The results achieved in this categories by Poland as well as the Ukraine are rather poor. The collaboration between the academia and industry has very low notes. The category knowledge and technology outputs shows us good level of creation knowledge (great value for the Ukraine), but the problems are with the transferred this knowledge into practice. The low value knowledge impact and knowledge diffusion correspond with lack of collaboration between universities and industry. The main conclusion is that the both countries probably have a great ideas and proper human potential for innovation, but a lot of innovative solutions are made by researchers only 'off-the-self solution'. They never have been applied into practice, because lack of collaboration with industry. The great potential is waste.

To prevent this situation the important matter is reinforce the cooperation between academia and business and trough it strengthen the efficiencies of innovation systems. Effective collaboration required the supportive environment and proper motivation. Nowadays, there are different way of collaboration. One of the most popular is creating the special bodies in the universities structure to cooperate with industry, including Technology Transfer Offices / Centres, University Incubators, and Collaborative Research Centres [6]. They may have important role to collect the data about technological solutions or initiation the contact with industry, but they key factor of success this kind of organization is close cooperation with researcher and support they education in the area of collaboration in industry. The quality of human resources, hired in this type of organization as well as researchers, is a crucial factor in developing and taking forward collaborative research activities [7]. This organization should spread the knowledge about transfer activities, such as training, consultancy, R&D and academic spin-offs [8].

Second possibility of collaboration is cooperative research partnerships, followed by contract research, research consortia, consulting and founding of co-operative research centres [3]. It is probably, the most effective way of development of innovative solution. Exchange the ideas ready to applied and cooperation on this base is one of the fastest way to implementation new solution into practice. This kind of activity is very often supported by external bodies. Funding bodies and others have been actively encouraging the formation of such partnerships trough the regulation, for example sometimes making university-research partnerships a condition for funding awards. This kind of consortia are very welcome in the Horizon 2020 calls and give a high chance for success of application.

Other way of cooperation in academic entrepreneurship. This kind of activity is very often supported by experienced companies and / or persons. The joint venture companies are create or the young enterprises gained the external investors. Sometimes also the companies such as spin offs or spin outs are funded. This kind of cooperation became more and more popular on the world. The well know exemplary this kind of company is Google, created by two person form Stanford University.

In the global scale, the importance of industrial funding of academic research has grown in the last years, pinpointing the rising relevance of university-industry collaboration for innovation. The boundary between science and technology have become blurred. The universities started to transfer technology by patenting their research and increasing their involvement with industry, especially in Europe [7]. The form of the collaboration evaluate, but the future of the universities is to be close to market.

Development of innovative solutions through the collaboration industry enterprises with research institutions is especially important for Polish and Ukrainian universities. The analysis of

the innovation shows that there is a lot of space for this kind of collaboration and high potential to start it. The important thing is support this activities through the proper regulation in the university (exemplary taking this kind of collaboration in the researchers assessments) and by the national regulation (supporting low and clear rules). The investment in it will be beneficial in the future for universities, industry enterprises and whole economy.

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АНАЛІЗ КОНКУРЕНТОСПРОМОЖНОСТІ МОРСЬКИХ ПОРТІВ УКРАЇНИ

Сучасна конкурентна боротьба на ринках світової морської торгівлі має тенденції до змін в співвідношенні між обсягами випуску товарів та послуг і місцем основних, орієнтованих на експорт галузей, в світовому розподілі праці. Рушійною силою в розвитку ринкових відносин в Україні повинна стати конкуренція між підприємствами. Морські торговельні порти, які є важливою ланкою економіки України і, зокрема, системи її зовнішньоекономічних зв`язків, стають активною частиною великого і дуже динамічного конкурентного середовища. Саме тому в їх розвитку спостерігаються тенденції використання новітніх логістичних технологій та перехід на якісно новий рівень розвитку, який передбачає виконання не тільки основних портових операцій, але й надання цілого спектру додаткових логістичних послуг. У той же час однією з актуальних проблем розвитку морських торговельних портів є значний рівень фізичного зносу основних виробничих фондів, а також їх моральна застарілість. Це пов`язано з виникненням великої кількості економічних

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